Enablement Rejection

The Examiner rejected claim 28 under 35 U.S.C. 112, first paragraph, as being non-enabled by the specification, asserting that a retroviral particle encoding a nucleotide sequence of interest is enabled, but not a retroviral particle that encodes a therapeutic gene.

Claim 28 presently recites a retroviral vector particle according to claim 24, wherein the NS encodes a desired polypeptide. Support for this language is found at page 10, lines 23-24 of the specification. Applicants respectfully submit that claim 28 is fully enabled by the specification. Removal of this rejection is respectfully requested.

Clarity Rejection

Claims 26 and 27 were rejected under 35 U.S.C. 112, second parargraph, as indefinite for use of the phrase "functional equivalent". Claim 26 as amended clarifies that the polynucleotide response element is responsive to HIV Rev or to a functional equivalent of HIV Rev. Claim 27 as amended clarifies that the polynucleotide response element is the Rev response element from HIV, or a functional equivalent of the Rev response element from HIV.

Support for this claim language if found, for example, at page 6, lines 25-29 of the specification. This portion of the specification teaches that if expression is to be HIV dependent, a suitable response element would be RRE, and a functional equivalent would be any response element which responds to Rev, for example, a portion of RRE or a mutated or otherwise manipulated version of RRE that retains the desired activity.

Claim 28 was rejected as being indefinite for reciting that NS encodes a therapeutic gene. The Examiner stated that genes are nucleic acids that encode proteins, not genes. Claim 28

presently recites that the NS encodes a desired polypeptide. Applicants respectfully submit that Claim 28 is definite under 35 USC §112.

Claims 29, 30 and 31 were rejected as being indefinite for reciting the claim limitation "derived from." Claim 29 has been amended to clarify that the packageable retroviral RNA genome comprises all or a portion of an oncoretroviral genome. Claim 31 has been amended to clarify that the retroviral response element comprises of all or a portion of a lentriviral response element. Applicants respectfully submit that Claims 29 - 31 are definite under 35 USC §112.

Claim 35 was also rejected as indefinite for use of the term "strong promoter". Although Applicants do not concede that the limitation "strong promoter" is indefinite, claim 35 has been cancelled to facilitate prosecution of the application.

Applicants thank the Examiner for indicating that claim 34, reciting a DNA construct encoding the packageable RNA genome for the vector particle of claim 24 operably linked to a promoter, is allowable after the overcoming of the objection to claim 34 that is discussed below.

Claim 39 was also rejected for indefiniteness. The Examiner stated that it is unclear what set of nucleic acids would give rise to the retroviral vector particles, or what is included or excluded in the system as claimed. The Examiner also stated that there was insufficient antecedent basis for the limitation "the components" in line 2. Although Applicants do not concede the appropriateness of this rejection, claim 39 has been cancelled to speed prosecution of the application.

Claim objections

Claim 25 was rejected for being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 25 has been cancelled. Withdrawal of this objection is respectfully requested.

Claim 34 was rejected for being of improper dependent form for failing to further limit the subject matter of a previous claim. The Examiner suggested that claim 34 be changed to an independent claim incorporating the limitations of claim 24. Claim 34 has been amended according to the Examiner's suggestions. Withdrawal of this objection is respectfully requested.

Claim 37 was rejected for being of improper dependent form. The Examiner suggested changing claim 37 to an independent claim incorporating the claim limitations of claim 24 and 37. Claim 37 has been amended according to the Examiner's suggestions. Withdrawal of this objection is respectfully requested.

Conclusion

Applicants submit that all claims are in condition for allowance. Notice of such allowance is requested. The Examiner is invited to telephone the undersigned attorney for clarification of any of the amendments and remarks or to otherwise speed prosecution of this application.

Respectfully submitted,

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Version With Markings To Show Changes Made

26. (Twice Amended) The retroviral vector particle according to claim 24[5], wherein the polynucleotide response element is responsive to HIV Rev, or to a functional equivalent of HIV Rev [thereof].

27. (Twice Amended) The retroviral vector particle according to claim 24, wherein the polynucleotide response element is the Rev response element (RRE) from HIV, or a functional equivalent of the Rev response element from HIV [thereof].

28. (Twice Amended) The retroviral vector particle according to claim 24, wherein the NS encodes a desired polypeptide [therapeutic gene].

29. (Twice Amended) The retroviral vector particle according to claim 24, wherein the packageable retroviral RNA genome [is] comprises all or a portion of an oncoretroviral genome [derived from an oncoretrovirus].

31. (Twice Amended) The retroviral vector particle according to claim 24, wherein the retroviral response element [is] comprises all or a portion of a lentriviral response element [derived from a lentrivirus].

34. (Twice Amended) A DNA construct encoding a [the] packageable RNA genome for a [the] retroviral vector particle [according to claim 24] , wherein the retroviral vector particle, when in the form of a DNA provirus, comprises:

(i) a 5'LTR comprising an HIV U3 and R region, or functional portions thereof having Tat inducible promoter activity;

(ii) at least one nucleotide sequence (NS) capable of being expressed in a target cell; and

(iii) at least one retroviral polynucleotide response element (PRE) which is responsive to a nucleus to cytoplasm transport factor;

wherein the NS and the PRE are located within an intron in a transcription unit of the provirus, wherein the intron is defined by flanking retroviral splice donor (SD) and retroviral splice acceptor (SA) sites derived from different retroviruses,

wherein said NS is capable of expression in Tat and Rev expressing cells, and NS expression is undetectable in cells not expressing Tat and Rev genes; and

wherein the construct is [the] operably linked to a promoter.

36. (Amended) The DNA construct according to claim 3[5]4, wherein the NS is absent and the construct comprises an insertion site within the intron containing the PRE at which one or more NS may be inserted.

37. (Twice Amended) A [The] DNA construct [according to claim 34] encoding a packageable RNA genome for a retroviral vector particle, wherein the retroviral vector particle, when in the form of a DNA provirus, comprises:

(i) a 5'LTR comprising an HIV U3 and R region, or functional portions thereof having Tat inducible promoter activity; and

(ii) at least one retroviral polynucleotide response element (PRE) which is responsive to a nucleus to cytoplasm transport factor;

wherein the PRE is located within an intron in a transcription unit of the provirus,

wherein the intron is flanked by a retroviral splice donor (SD) site and a retroviral splice acceptor (SA) site derived from different retroviruses,

wherein the [NS is absent and] construct comprises an insertion site within the intron containing the PRE at which one or more nucleotide sequences (NS) may be inserted; and

wherein the construct is operably linked to a promoter.